



01 Sep 1977

The Missouri Miner, September 01, 1977

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The Missouri Miner

Official Publication of the Students of the
University of Missouri at Rolla



Thursday, September 1, 1977

Volume 64, Number 2

16 Pages

Inexperience A Factor

Miners Ready For Mo. Valley

By BILL FRANK

The Miner football team opens its season this Saturday against a tough Missouri Valley

squad at 1:30 at New Jackling Field. In spite of losing the last three consecutive opening day contests to Missouri Valley,

Head Coach Charlie Finley is optimistic about his team's prospects. UMR holds a 7-4 edge over Mo Valley overall.

The Miners have made several changes and acquired some outstanding talent. Senior Bill "Bubba" Warwick was moved from his defensive end position to take on responsibilities as strong safety. Coach Finley believes that putting Bubba in this "Monster Man" position will add much-needed senior experience to the defensive secondary. The Miners lost three defenders, Herb Herman, Dennis Jones, and Mark Mastroianni, to graduation and defensive secondary coach Bud Mercier is busy filling those gaps. Roger Vessel, a wide-out in '76, has been moved to the secondary also.

New players include several sharp freshmen such as Craig Heath and Bill Grantham; both will be on defense. Two transfer students also figure prominently in UMR's plans. Rick Shores, 6', 210 lbs., from Fort Scott Junior College, is presently in a hot battle with Steve Henry for the starting job at center. Joe Kinsella, 6'1", 240 lbs., from Northeast Missouri State, is a defensive tackle. He started for NEMS at defensive tackle both his freshman and sophomore years and is the strongest man on the Miner squad, bench-pressing 455 pounds. He has had some minor knee problems, but has not missed any practices.

Other contested positions include wide receiver where David Hall, from Leeswood, Kansas, 6'4", 192 lbs., is vying with Craig O'Dear, quarterback in '76, 6'3", 200 lbs., and Monty

Morse, 6'1", 175 lbs. The noseguard slot is being fought for by Andy Lain, Kent Lewis, who was recently injured, and latecomer John Spence. Coach Finley believes this competition can only help the Miners by helping to field better players as well as provide important depth.

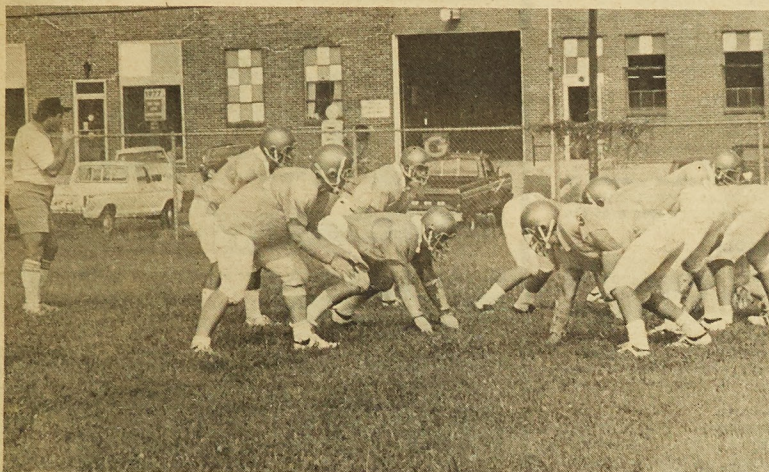
The Miners feel very strong at both quarterback and halfback. Ken Vaughn and Jeff Walters will handle the QB responsibilities, and Terry Rayn, last year's unanimous all-conference running back, will highlight the Miner backfield. Jim Lee, a Rolla High graduate, is also on the squad.

Coach Finley has confidence in his fullback slot also, due to probable starter Dave Fischer. However, Dale Hursh, who lettered on specialty teams in '76, Jerry Kleunke, and Ron Bretz are all good fullbacks and will stay in contention for the starting nod.

Prospects for defensive ends include Jeff Wozak, Greg Elzie, and Gary Misah, a starter in '75, plus Jeff Stone, a sharp freshman, voted outstanding player in St. Louis' High School East-West All-Star game.

Coach Finley is somewhat worried about the offensive line due to depth problems. The guards will be Ralph Weatherspoon, who will be playing with considerable pain due to his arthritic knees, and "Bear" Roller, 6'2", 238 lbs., and Brian Tepper. Tackles include Steve Curran and senior John Moles.

Cont. on pg. 13



The Miner football team has been readied for action as their season begins this Saturday. Outstanding talent and some new bloup will help the Miners...

Williams Curator's President

COLUMBIA, Mo. — Rex Z. Williams, a Rolla banker, was elected June 24 as president of the University of Missouri Board of Curators for the coming year. He succeeds Van O. Williams of Liberty.

Elected vice president for next year is Mrs. Barbara A. Berkmeier of Chesterfield.

Both Rex Williams and Mrs. Berkmeier were appointed to the board in 1975 by former Gov. Christopher S. Bond.

Williams holds two degrees from the Missouri School of Mines and Metallurgy, now the

University of Missouri-Rolla, having earned a B.S. in civil engineering in 1935. He also received an M.S. degree in engineering mechanics from the University of Wisconsin in 1936.

Williams served on the faculty of the Missouri School of Mines from 1931 to 1952, when he joined the Rolla State Bank as vice president. He served as president of the bank from 1960 to 1975 and now is board chairman.

Mrs. Berkmeier, a housewife, received a B.S.

degree in education in 1966 from the University of Missouri-Columbia. She taught in the Ferguson-Florissant school district for four years and the Riverview Garden district for three years.

A well-known golfer, Mrs. Berkmeier has won the Missouri women's golf championship four times.

MINER POSITIONS OPEN

Positions open for Fall

- Assistant Editors
- Writers
- Artists
- Photographers

Applications for THE MISSOURI MINER are available at the Candy Counter in the New Student Union and at the MINER office, T-1. All applications should be submitted at the MINER mailbox by Friday, September 9 to be considered.



...Snap into action
(Miner Staff Photo)

Bullboard

Notices to appear in the Bullboard section should be typed and deposited in the north door of the Miner office by 9:00 p.m. Monday. This will assure publication in the next edition

MISSOURI MINER
Thursday, September 1, 1977
Page 2

MISSOURI MINER

The Missouri Miner will hold its next regular meeting at 9 p.m. on Monday, September 5 at the Miner office, T-1. Articles and bullboard announcements should be submitted at this time.

S.M.E.

The Society of Mining Engineers will hold their first meeting on Tuesday, Sept. 6 at 7:30 p.m. in Room 107 of the Mining Building. Ben Chauvin, from Monterey Coal Co., will be the speaker. A special invitation is given to the freshmen, as well as to all the students enrolled in Mining Engineering and faculty, to attend the meeting. Refreshments will be served following the meeting.

RAQUETBALL

The Raquetball Club will have a meeting Wednesday, Sept. 6 at 8:00 p.m. The meeting will be held at Sigma Nu, 1005 Main St. Election of Officers will be held. The club will make plans for this semester's tournament and will also accept any new members who are interested in the sport.

ROLLA CHAMBER SINGERS

Singers wanted: All voices, particularly tenor and bass. Rehearsals Monday evenings. Call 364-8205 or 364-2771 (evenings) for information.

VARSITY BASEBALL

Fall baseball practices are now being held for those interested in trying out for the UMR Varsity Baseball team. Anyone interested should meet Tuesdays through Thursdays at 6:30 p.m. on the baseball diamond, south of the Multi-Purpose Building.

MSM ROCK CLIMBING CLUB

Invites any person interested in rock climbing, mountaineering or related areas to its meetings at 6:30 p.m., Thursdays in 305 Norwood Hall.

ASTRONOMY GROUP AND SPS MEETING

All students with an interest in astronomy are welcomed to attend the first Astronomy Group meeting of the year. It will be held in Rm. 104 Physics, at 7:00 tonight, Thursday, Sept. 1. The film "Birth and Death of a Star" will be shown as the special program for the evening. The activities and organization of the group will be outlined for the benefit of new students present. The group has equipment available for astrophotography, photometry, and radio astronomy, as well as general observation. After a short business meeting, a tour of the UMR Observatory will be given for those interested.

This meeting will also serve as a meeting of the Society of Physics Students, so all SPS members and Physics majors are encouraged to attend.

I.F.C. DRIVE IN MOVIE

WEDNESDAY, SEPTEMBER 7, 1977 8:15

M.A.S.H. & HEARTBREAK KID

DONATION \$1.00 GATES OPEN 7:15

GET YOUR TICKETS FROM ANY I.F.C. REP

MATES

The Association of Married Students will have its first meeting September 6 at 7:00 in Room 105, EE. All married students are urged to attend. September 10 picnic and pool party will be discussed and refreshments will be served following.

ST. PAT'S DESIGN CONTEST

The St. Pat's Board Annual Sweatshirt Design Contest is now being held. First prize this year is \$35, second is \$25, and third is \$10. All designs to be entered should be given to any St. Pat's Board Rep. no later than Tuesday, Sept. 20.

UMR TRAP & SKEET CLUB

Want to shoot trap or skeet, or learn how to? Come to the organizational meeting of the UMR Trap & Skeet Club to be held at 7:00 p.m. in Room 118 of the Civil Engineering Building. All are invited.

IEEE

IEEE is holding its first meeting of the semester, Tuesday, September 6 at 6:30 in the M.E. auditorium. The program features a presentation on a microprocessor system from Tektronix. Memberships are available and there will be door prizes and refreshments.

ASCE

Attention, civil engineers!! Don't forget to join your professional organization, American Society of Civil Engineers. Memberships are available in the C.E. Building this week and next until the first meeting on Wednesday, September 7, 7:00 p.m., C.E. 114. ASCE is an active society and looks great on a resume.

RADIO CLUB

There will be a meeting of the U.M.R. Amateur Radio Club this Wednesday, August 31, at 6:30 p.m., in room 101 E.E. Anyone interested is invited to attend.

SOCIETY OF WOMEN ENGINEERS

The first meeting of the Society of Women Engineers will be held at 6:15 September 6 in the Civil Engineering Auditorium. Plans for the fall Women in Engineering conference will be discussed. All interested UMR students are invited to attend.

TAU BETA PI MEETING

Committees for the fall semester will be selected at the Tau Beta Pi meeting on Tuesday, September 6 at 7:00 p.m. in G-5, H-SS. Refreshments will be served.

UMR CHESS CLUB

The UMR Chess Club invites all chess players to attend their next meeting. The Chess Club meets each Tuesday night at 7:30 p.m. in the Ozark Room of the University Center West.

VARSITY GOLF

Next Wednesday, Sept. 7, there will be an organizational meeting for anyone interested in playing golf for UMR next spring. If Varsity Golf is your trip—BE THERE at 7:00 p.m. at the Multi-Purpose Building.

IKA

There will be an IKA meeting at 7 p.m., Thurs., September 1 in the Meremec Room. All members please be there.

AICHE MIXER

There will be a faculty-student mixer, Sept. 7 at 7:00 p.m. in ST. Pat's Ballroom for all Chemistry and Chemical Engineering Students. The mixer is sponsored by Alpha Chi Sigma, AIChE, & both departments. Freshmen are encouraged to come.

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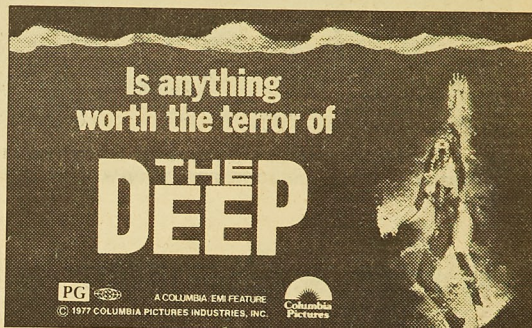
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Breaker! Breaker!
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Nine Great Films

By MARILYN KOLBET

The fall series of "Nine Great Films" will be presented by the UMR Humanities Department starting September 8. This selection of movies is open to people who are interested in learning more about the cinema. All students and the general public are invited to attend the program.

James Bogan, the instructor and course director, will begin each session with a short introduction concerning the film to be shown. After the viewing, an informal discussion will be held. Attendance to this portion of the program is optional.

All films will be shown in the Mechanical Engineering Auditorium at 7:30 p.m. Advance registration is required. The course fee, \$10, will go toward paying the film rental charge.

The fall schedule is:

September 8 — "Limelight"

September 15 — "Small Change"

September 29 — "Next Stop Greenwich Village"

October 6 — "Children of Paradise"

October 20 — "Shadows of Forgotten Ancestors"

October 27 — "Swept Away"

November 10 — "Stagecoach"

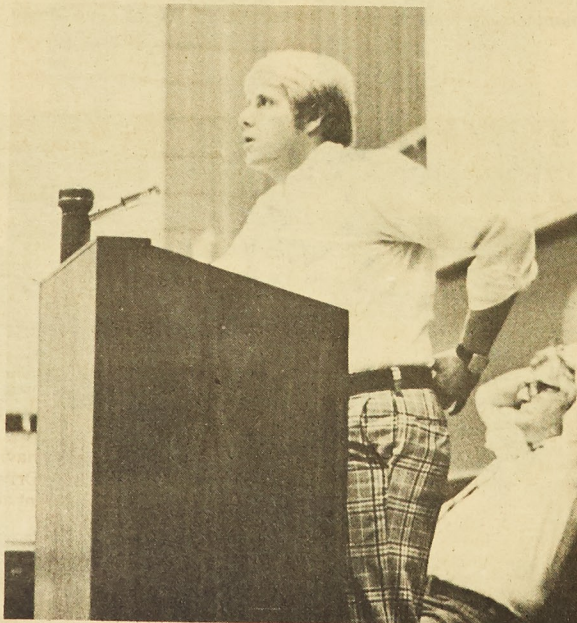
November 17 — "La Strada"

December 1 — "The Magic Flute"

The program is partially supported by a grant from the Missouri State Council on the Arts.

"Nine Great Films" is among

a series of programs presented by seminar on the Arts. Throughout the year programs in theater, music, and film are offered to make professional works more accessible to the community.



The Placement Office sponsored an Interview Seminar to acquaint the graduating seniors with the ins and outs of interviewing this semester.

(Photo by Burford)

PRE-LABOR DAY

BLOW-OUT

SUNDAY SEPT. 4

TIME VISITOR

1 SUMMER SCHOOL TEACHERS

2 THE STUDENT TEACHERS

3 The Swinging Cheerleaders

4 The Student Body

ONE NIGHT... ALL NIGHT

Adm. \$2.00 Per Person

In Memorium

Eight days ago a young man, a student here at UMR, died. Apparently committing suicide, Harry J. Bruce II, left a note apologizing to his parents for what he felt was a failure to perform well enough in their eyes. Stating that he felt this school was too difficult and that he probably would not be able to live up to his parents' expectations, he laid down upon the rails of a railroad to die.

The route he chose was the only one available to him in his eyes. This much is obvious. Because he chose this road does not make it right or wrong. Only regrettable to those of us still in this world of the living.

In memory, the Miner bows its head.

—THE MINER STAFF

Baseballs- Subject Of Lively Research

Source: OPI

Two University of Missouri-Rolla professors have been commissioned to run tests on the coefficient of restitution for major league baseballs. In other words, they are checking to see if there is a rabbit inside the new cowhides.

Sportswriters, players and fans have been claiming all spring that this year's major league baseball is more lively than last year's. One factor is that this year's baseballs are made by Rawlings whereas last year's were by Spalding.

Dr. Lee Bain, professor of mathematics, and Dr. Max Engelhardt, associate professor of mathematics, are conducting

tests to measure the exact liveliness of the balls. They are being assisted in the mechanical testing by Dr. Terry Lehnoff, associate professor of mechanical and aerospace engineering.

"We have almost finished with the testing, and analysis of the data should be completed within a few days," Dr. Bain reports.

The actual testing is relatively simple. The UMR professors have six dozen each of last year's Spalding balls and this year's balls by Rawlings. The balls are fired out of an air cannon onto a flat surface.

Radar guns are used to measure the speed they are traveling upon impact with the wall and then the speed at which they bounce off the wall. The ratio of the two speeds is then computed mathematically.

The equipment being used is on loan from the Rawlings Sporting Goods Co. Rawlings ran its own tests earlier this year with Drs. Engelhardt and Bain analyzing the data. Then the major leagues asked the two UMR professors to conduct another test on campus.

Dick Butler, supervisor of the American League umpires, was on campus to observe the actual testing of the baseballs.

Noted Artist To Hold Watercolor Classes At UMR

Source: OPI

An art class entitled Beginning Watercolor will be offered Tuesday evenings during the fall semester at the University of Missouri-Rolla.

This non-credit course will include familiarization with transparent and opaque watercolor media and techniques in landscape painting. Emphasis will be placed upon the basic techniques of transparent watercolor using both "dry brush" and "wet-in-wet" approaches to painting. The student will learn the use of the basic elements of perspective, light and shadow, texture and pattern, color and various types of washes. While it is not necessary, it would be helpful if the student possesses drawing skills.

Instructor for the course is Bill McFarland, a native of Missouri. He has exhibited in galleries and shows throughout

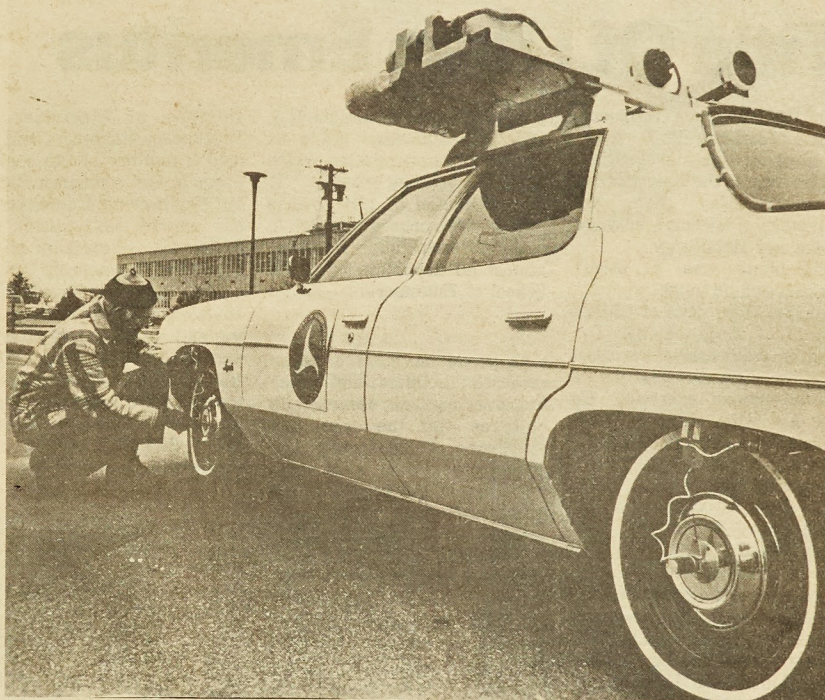
Texas and recently in Rolla. His paintings hang in private collections across the United States. He is a member of the Texas Area Artists Association, Southwestern Watercolor Society and is on the board of directors of Friends of Art in Rolla.

Classes will be held each Tuesday night, 7 to 10 p.m. in UMR's T-7, Room 101, 16th St. and Vichy Road (across the street from St. Patrick's School), beginning Aug. 30. Students will receive 45 hours of instruction.

Fee for the course is \$110. Students will furnish their own supplies (list is available with registration form). The course is an extension activity of UMR's humanities department.

For further details or to obtain a registration form, call or write: Norma Fleming, Extension Division, 501 W. 11th St., Rolla, Mo. 65401 (Phone: 341-4201).

Miner News



Dr. Dunipace inspects the Driver Performance Measurement and Analysis system, otherwise known as an experimental car. Through research, it is hoped that cars and drivers of the future will be safer on the roads.

Experimental Car Makes Better Drivers

By ED LATIMER

The UMR Research Team recently completed their testing of an experimental car for driver-car relationships in a safety experiment. Eight UMR electrical engineering students, with Drs. Kenneth Dunipace and Frank Kern, professors of electrical engineering, acting as co-directors of the project, tested the car which was not just stock equipped. It wasn't a "car of the future" or a hot rod, but rather carried instruments and equipment designed to monitor almost every move and reaction of both car and driver.

The car was originally

designed and developed for the Office of Driver and Pedestrian Research of the National Highway Traffic Safety Administration, and is used at many other facilities which study car and driver behavior also. Known as the Driver Performance Measurement and Analysis System, it was developed so that methods of modifying both car and driver can be developed so as to reduce the number of accidents.

The project at UMR was to merely study the car and its behavior from an engineering aspect. The Research Team, supported by a grant from the U.S. Department of Tran-

sportation, time after time drove the car themselves over its own set of field tests to obtain enough data. They then concluded their study with simple, accurate mathematic formulas which will enable engineers to measure car behavior. This information will be a contribution to other related studies and result in design changes in car manufacturing.

Dr. Dunipace looked on the lighter side of things by saying, "Although it's a sidelight to the project there was the other positive result of our research: Because of the field testing, all the students are better drivers."

Missouri Miner Staff

The MISSOURI MINER is the official publication of the students of the University of Missouri at Rolla. It is published weekly at Rolla, Missouri. This MISSOURI MINER features activities of the students and faculty of UMR.

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Articles and photos for publication in the MINER must be in by 9 p.m. on the Monday before printing on Thursday. Subscriptions are available to the general readership at a rate of \$3.00 per semester.

THE MISSOURI MINER
T-1
University of Missouri-Rolla
Rolla, MO 65401

"Magnificat In D Major" To Be Performed

Next December the University of Missouri-Rolla Choir and Orchestra will perform Johann Sebastian Bach's "Magnificat in D Major" and the Carol Phillip Emmanuel Bach "Magnificat."

An invitation is issued to all interested musicians — UMR students and area residents — to participate in this program scheduled for Sunday, Dec. 4. There is a particular need for string instrumentalists and female vocalists according to Joel Kramme, UMR instructor in music and director of both groups.

"The 'Magnificat' text, a canticle of the Virgin Mary taken from Luke I: 46-55, is normally sung at the Office of Vespers in Roman Catholic rites and is traditionally included in evening Advent

services of the Protestant Church," Kramme says. "The J.S. Bach setting of twelve movements — with five for chorus and orchestra — corresponds exactly with the verses of the original canticle. The C.P.E. Bach version sets the text to nine movements, four for chorus and orchestra. The remaining movements in both cases are performed by solo voices — sometimes as duets.

"The J.S. Bach 'Magnificat' is considered to be one of the hallmarks of Baroque concerted sacred music," he continues. "It is frequently performed by choirs and orchestras throughout the Western World. The 'Magnificat' by C.P.E. Bach, the second-eldest son of Johann Sebastian, closely resembles that of his father in

structure and design, but the texture and lyricism reflect the progressive styles of the Enlightenment and early Classical periods in music."

The UMR University Choir rehearses each Monday, Wednesday and Friday from 12:30 to 1:20 p.m., in Rehearsal Room 1 of the Old Cafeteria. The UMR Orchestra will rehearse Thursday nights at 7:15 p.m. in Rehearsal Room 2 of the same building. Singers and instrumentalists interested in participating in either ensemble should contact Joel Kramme, G-8, Harris Hall (phone 341-4185) for details. One hour of university credit may be earned.

"It is a new semester and we need everyone's help to get Bach in shape," Kramme concludes.



Professor J. Robert Betten, Chairman, Department of Electrical Engineering at UMR has been elected director of the electrical engineering honor society, Eta Kappa Nu.

Born in Omaha, Nebraska, in 1932, Prof. Betten holds M.S. and Ph.D. degrees in electrical engineering from Iowa State. He joined the UMR faculty in 1962 as associate professor and was promoted to full professor in 1964, and has been department chairman since 1967.

Dr. Betten is a member of many professional organizations and is well-qualified to lead Eta Kappa Nu.

Dean Johnson Receives Title Of Dean Emeritus

In 1937, a young instructor with a brand-new Ph.D. began his teaching career in electrical engineering at the University of Missouri-Rolla, then the University of Missouri School of Mines and Metallurgy.

His name was J. Stuart Johnson and he taught at Rolla until 1944. Now dean of UMR's School of Engineering, Dr. Johnson will receive the dean emeritus title in this year's commencement exercises. He and his wife, Lucille, were honored at a retirement dinner Saturday evening, May 7, at the University Center.

Dr. Johnson has been back at UMR since 1967. But, he says, "there were lots of years and lots of miles between the two stints on the Rolla campus."

Johnson left UMR the first time to serve with the U.S. Navy during World War II, serving several months in Japan during the occupation. When he returned to civilian life in 1946, he went to the University of Florida as associate professor of electrical engineering. The next year he became assistant dean of engineering. He has been in administration ever since. He was head of the School of Electrical Engineering at Purdue University from 1954 to 1957 and then dean of the College of Engineering Wayne State University, Detroit, before returning to Rolla.

"I came back to a campus far different from the one I had left," Dean Johnson remembers. "Only the old buildings — and the St. Pat's celebration — were left of the old days."

The new dean of engineering found a campus on the move. "Enrollment was more than 10 times larger than when I left, and facilities had more than doubled. Many of the buildings on campus have been built in the last 10 years," he says. For him the most important of these new buildings would have to be the Engineering Research Laboratory (ERL).

"When I came, the building was under consideration," he recalls. "The legislature had

appropriated funds and the U.S. Office of Education made an additional appropriation which made the building possible." It was dedicated in 1973. Beside offices, ERL houses research in many different fields, including almost all departments in the School of Engineering.

As proud as he is of these research facilities and other improvements on campus, he believes that the continued excellence of the faculty and students at UMR is of most importance. "As a result of this excellence, this campus continues to attract a large number of recruiters for our graduates, even during periods of economic recession. UMR was selected by numerous industries as one of a limited number of schools at which they recruited. Our students continued to get good jobs," he adds.

He is pleased that engineering enrollments are climbing again. "A few years back, engineering enrollments dipped all over the country," he says. "For us the decrease was later in coming, and probably less than most in percentage. But, because engineering students make up about 70 per cent of our enrollment, whereas on large universities it may make up only a tenth, the impact was more noticeable. This year enrollment is up, and it will be even higher next year."

He is especially pleased with the increased number of women and minorities in engineering. "There were very few minority and women students the first year I was here. There are more than 300 women in engineering here this year, more than twice the total female enrollment on campus in 1967," he reports.

Dean Johnson has long been active in a number of professional and honorary societies. He is a fellow in the

Institute of Electrical and Electronics Engineers and has held a number of national offices. In the American Society for Engineering Education, he has served as national vice president, chairman of the Electrical Engineering Division and the Relations With Industry Division, besides two terms on the national board of directors and in numerous other offices. He has been on 20 accreditation teams for the Engineers Council for Professional Development (accreditation agency for engineering curricula).

He has a long list of activities in many other organizations. These include, for example, the National and Missouri Societies of Professional Engineers, the Association of State Universities and Land Grant Colleges, and American Academy of Transportation. Honor societies include (among about a dozen) Tau Beta Pi, Eta Kappa Nu, Phi Kappa Phi and Sigma Xi. He has received many honors. He received an award for Distinguished Service in Engineering from the University of Missouri, Columbia, where he received his B.S. and M.S. degrees. He was awarded an honorary Doctor of Science degree from the Lawrence Institute of Technology, Detroit. And last, but far from least, he is an honorary Knight of St. Patrick at UMR.

He is a member of Triangle Social fraternity, the Rolla Rotary Club, the Rolla Area Chamber of Commerce, and the First Presbyterian Church. Mrs. Johnson is also actively involved in the Presbyterian Church, Hospital Auxiliary, and many other civic organizations. The dean hopes that retirement will give him a little more time to spend on some of these activities and on some of his hobbies — wood working, photography, playing the organ and such.

Cont. pg. 6

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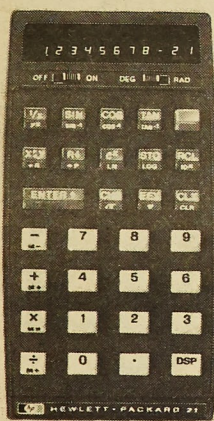
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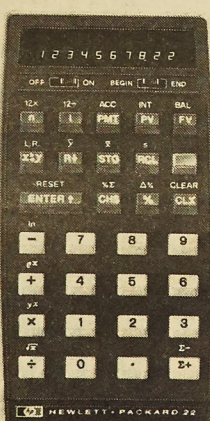
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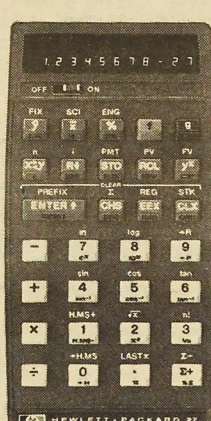
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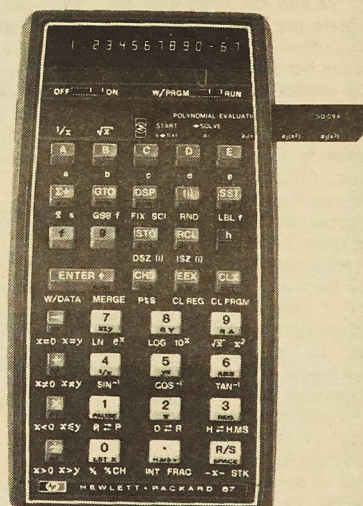
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First PHD In Computer Science Granted At UMR

Sister Joseph Kieran McAdams, a member of the order Sisters, Servants of the Immaculate Heart of Mary, Immaculata, Pa., is the first candidate to earn a Ph.D. degree in computer science at the University of Missouri-Rolla. She completed all the necessary requirements and was awarded the degree at the end of UMR's summer session, July 30.

The new UMR degree was approved by the University of Missouri Board of Curators March 26, 1976, and, finally, by the Missouri Coordinating Board of Higher Education on June 7, 1976. A total of six students who had been working through the mathematics department became candidates for the new degree. Sister Joseph was the first to apply.

In 1970, Sister Joseph read about a summer institute for college teachers, supported by the National Science Foundation, offering a program on computer assisted instruction at UMR. She applied for and received a grant from UMR enabling her to attend the institute during the summer of 1971.

She became interested in the computer science field and decided to continue her study and work toward a Ph.D. in mathematics with a computer science specialty. For the next two summers her community financed further work at UMR. Since 1974, however, she has been awarded research and teaching assistantships by UMR so she has been able to complete her degree as a full time student.

"I am particularly interested in the methods of teaching used in presenting the first or introductory course in computer science to students," she explains. "These days almost everyone working in industry, government and even the education field will be using computers in some aspect of the work they do. They should all, even those without a mathematics background, be able to obtain a sound knowledge of computer capabilities and procedures."

In order to earn the degree, every Ph.D. candidate must contribute some new knowledge to his or her particular field of interest. The student takes a certain amount of advanced course work, chooses an area of knowledge or a technique that has not been studied and proceeds to research it thoroughly to prove or disprove an assumption. Presentation of the research and conclusions reached as a result of the work is published in a document entitled a thesis or dissertation.

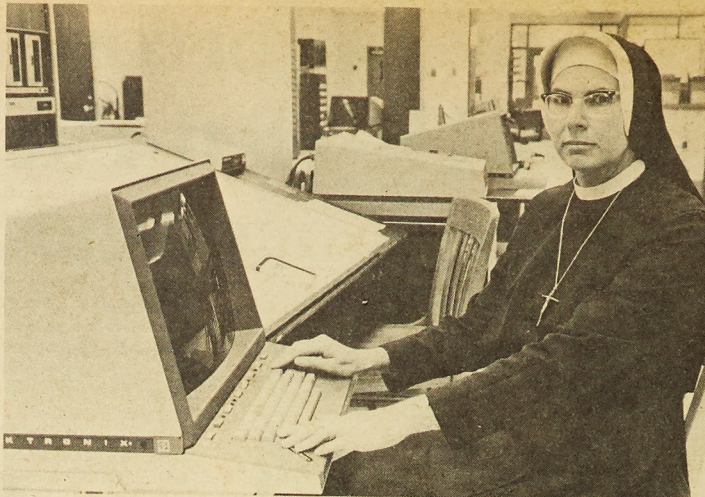
For her research and dissertation, Sister Joseph chose to develop a specific method of teaching FORTRAN (a type of language used to put in and extract information from the computer) using a drill and practice system.

Sister Joseph plans to return to the mother house in Immaculata as soon as her work is completed at UMR. Next fall she will return to Immaculata College—this time as an assistant professor of

mathematics teaching computer science. She has also been given an additional title, director of financial aid at the college.

"I think I will be expected to set up some sort of computer system for financial aid," she says. "This will be a whole new area for me. And from what I gather by asking around, not many institutions have found a satisfactory computer system for that office. It's difficult because there are so many value judgments involved."

"I'm looking forward to it," she concludes. "I will be able to use the material I've been working on in my teaching and the new responsibilities will present a real challenge in a new area."



UMR's First Ph.D. in computer science was granted to Sister Joseph McAdams on July 30, 1977. Sister McAdams has been teaching at UMR since 1974, but the new degree of Ph.D. in computer science was approved by the Missouri Board of Curators in 1976. Sister McAdams will use her degree to teach at Immaculata College as an assistant professor of Mathematics teaching computer science.

G.E. Grants \$5,000 For Minority Engineer' Program

The General Electric Foundation has granted the University of Missouri School of Mines \$5,000 to use for its Increasing Minority Engineers program.

Foundation secretary William A. Orme said UMR-Rolla was one of 26 colleges and universities which will benefit during 1977 from \$380,500 in grants for Minority Engineering Programs. Of the total, \$200,000 is earmarked to increase enrollment at predominantly Black engineering schools, and the balance is to support minority engineering programs at predominantly white schools.

The Foundation's Minority Engineering Program, Orme said, is aimed at attracting qualified Black, American Indian and Hispanic students to engineering careers, encouraging minority enrollees and graduates at predominantly white engineering schools, strengthening engineering minorities.

The GE Foundation is an independent trust established by the General Electric Company. Since its inception in 1952, it has provided more than \$40 million in educational grants to meet the priorities of business and industry.

Over the past six years, the GE foundation has given more than \$5 million for scholarships and other programs in support of engineering educations for

academics at black schools, and promoting leadership activities in engineering for minority students.

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Johnson-Named Dean Emeritus *Tripping On Loco Weed Is Latest Fad*

Cont. from pg. 4

But he doesn't intend for retirement to mean that he stops his interest and involvement in his profession.

"The main thing is that it will change the rigidity of my schedule — the deadline pattern of everyday work," Johnson says. "We'll be able to visit our children — Russell and his family in New Jersey, Martha

and family in Massachusetts, and Sylvia and family in Michigan — when we want to, rather than during vacation months."

Besides family travel, he hopes to be able to tie in some trips with overseas education, preferably in Africa and Asia. Engineering education in developing countries has been a special interest since he became involved in UMR's project to develop and improve engineering education at the National Technical Center in Saigon, Vietnam.

"But when we travel, it won't be for very long at a time," he adds. "I'm a native Missourian, and Rolla will remain home."

Non-Credit Piano Classes

Non-credit courses for adult piano students are offered by the University of Missouri-Rolla Extension Division and the department of humanities this fall, Aug. 29 through Dec. 15.

As many as six persons may be enrolled in each class. Instruction is in an electronic music laboratory.

Sections are offered Monday and Thursday evenings with students assigned to sections according to experience. The classes range from beginning to

advanced lessons. Classes begin at 6:30 p.m. and 8 p.m.

Frances A. Oakley, the instructor, has had experience in teaching both adults and young students. She will be teaching the UMR adult piano courses, using the electronic piano laboratory, for the fifth consecutive year.

For further information, contact: Norma Fleming, Extension Division, University of Missouri-Rolla, Rolla, Mo. 65401 (phone: 341-4201).

(CPS+Baltimore) — A substance known as loco weed in the Old West recently has been responsible for more than 12 drug overdoses in southern Maryland, leading to bizarre behavior and hospitalization of the victims, state drug officials confirmed last week.

The plant, also known as jimson weed, grows wild in southern Maryland and is ripe for picking for anyone who recognizes it. Loco weed is classified as an alkaloid poison and induces the effects which include hallucinations, anxiety, coma, headaches, nausea,

unnatural thirst, hypertension, rapid pulse and pupil dilation.

Drug officials have warned that use of the substance could be fatal.

"What happens is that you can be stimulated to the point of an extremely rapid heartbeat, you go into convulsions, and, depending on the makeup of the person, it can be fatal," explained Howard Silverman, deputy director of the state Drug Abuse Administration.

Some users reportedly chop up the loco weed and smoke it, but in most cases young people chew seeds after taking them from the pods of the plants. There's no explanation why just young people are abusing the weed.

"This is the latest craze that the kids have gotten into," said Silverman. He added that use of the drug has probably increased because of the dwindling supply of more traditional hallucinogens.

Pill, Smoking Don't Mix

(CPS)—According to the conclusions of recent British and U.S. studies, women in their later childbearing years face a higher risk of death when they are smokers and use oral contraceptives. Based on these and previous studies, the U.S. Food and Drug Administration is considering a recommendation against the use of the "pill" by women over 40.

The study assesses the risks of women who don't use the pill, women who use the pill but don't smoke, and those who use the pill and do smoke. Some of the comparisons and conclusions may shake the smokers up.

—nonsmokers, any age, using the pill face less risk of death than the normal risk that exists from pregnancy and childbearing faced by

women using no birth control.

—users who smoke over 40 face almost three times the death risk of women who use no birth control.

—women in their 30's who are heavy smokers may find more hazards than using no fertility control.

—women 15 to 29, who combine the pill and heavy smoking, may face more hazards than any other method of fertility regulation.

A doctor at the U.S. Center for Disease Control in Atlanta, after studying the British report and conducting his own research, gave his personal opinion by saying "that a woman over 30 who both smokes and takes the pill should make up her mind and use one but not the other."

Final Schedule

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Star Date: Space Shuttle

By DEBBIE MEISTER

CAPTAIN'S LOG- STAR DATE 7708.12: Astronauts Fred Haise and Gordon Fullerton aboard the space shuttle Enterprise glided to a smooth landing onto a dry lakebed in the Mojavi desert. Even though the five minute, twenty-three second test flight was run at sub-warp speeds, impulse engines were non-existent, and it was somewhat less dramatic than "beaming" down to the planet's surface, the first free flight of NASA Rockwell International Orbiter 101 was a milestone in space exploration and a first step towards a new industrial revolution. The 75-ton Orbiter 101 space shuttle riding piggyback on a modified Boeing 747 did not look as sleek as its fictional name-sake the "Star Ship Enterprise." Once the 747 had brought the shuttle 24,000 feet above Edward's Airforce Base, the powerless shuttle was separated from the mother-ship and executed two 90 degrees turns as it plummeted at nearly 200 feet per second. Fred Haise then brought the Orbiter to successful landing on the 7 mile long runway.

The Orbiter is not an airplane, nor is it a true rocket. Dr. Oetting, Professor of M.E. and A.E. engineering here at UMR, describes it as a "hybrid-system to serve both as an airplane and rocket in launch, orbit, entering and return." Unlike Orbiter 101, an operational space shuttle will have two solid-fuel booster rockets to launch it from Cape Canaveral, or Edward's Air Force Base. These solid-booster rockets will then be cast off, fall into the ocean and will be reusable. An expendable liquid fuel tank in the center section takes the shuttle to its orbit position, is released and drops into the ocean. While in orbit the shuttle will be able to maneuver in space, changing orbits by spending its on-board fuel supply. In order to return, small retro-rockets must be fired, decreasing the velocity, thereby forcing the shuttle back into the atmosphere. Non-ablative tiles absorb and shield the shuttle from the extreme heat produced during re-entry. The shuttle will then land similarly to its proto-type the Enterprise.

Why is the shuttle such a crowning achievement of space exploration? Aside from the technological advancements in the designing of the the shuttle, its potential uses as a space lab, launching pad, repair station, and truck, make it an indispensable tool for the future. Rather than training astronauts to do the work of scientists and engineers "we can send neophyte people to work in the shirt sleeve environment of the shuttle," Dr. Oetting explains. The astronauts will have the responsibility of piloting the shuttle through space, while passenger scientists, technologists and engineers will be able to spend full time experimenting with new processes

of manufacturing in such fields as medicine, metallurgy and electronics, in the beneficial zero-gravity of the shuttle's laboratory. American and foreign industries are already looking forward to the production of semi-conductors, highly dissimilar alloys, Urokinase (a drug used in the treatment of blood-clots), ball bearings, and flawless glass for telescopes and lenses, all of which are difficult and expensive to produce under the influence of Earth's gravity. However, the initial experiments, performed in the shuttle Dr. Oetting says, will be to discover "knowledge for science's sake."

At first glance the cost of the space shuttle seems to be an exorbitant amount — \$500 million dollars each — and NASA plans, in the 1980's, to have five operational shuttles. However, looking into the near future the advantages of having a reusable, versatile space-shuttle far outways their predicted expense. The satellites launched today must be virtually indestructible because they are impossible to repair once out in space. When we have an operational shuttle, it will be possible to rendezvous with, and repair the satellites in space, or if necessary, bring them back to Earth for extensive overhaul. The shuttles' huge cargo bay, 15' in diameter and 60' long, is capable of carrying larger satellites into space for less than half of what it costs to launch smaller ones today.

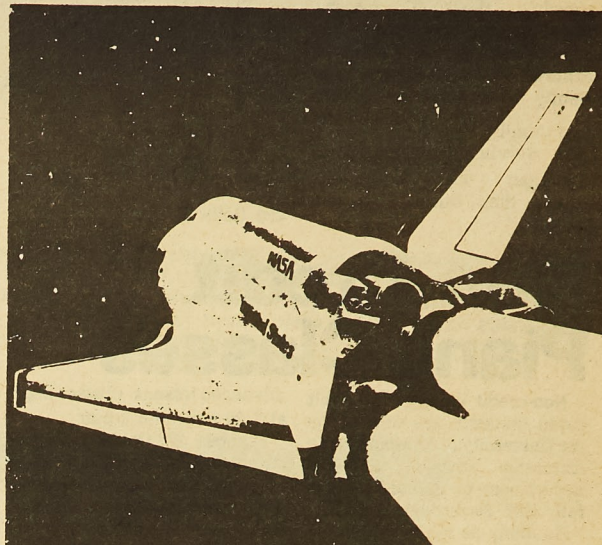
One mission currently planned for the space shuttle is the launching of the Jupiter Probe, around 1981. Dr. Nelson, UMR associate professor of A.E. worked with McDonnell-Douglas Corp. this past summer on the Jupiter Probe mission. "After being launched from the space shuttle, the probe will enter Jupiter's atmosphere and measure temperatures, pressures and the composition of the atmosphere. This information will then be sent back to Earth," Dr. Nelson explains.

The most attractive feature of the space shuttle is its economic advantage over "no-deposit, no-return" booster rockets. Each shuttle, because of its non-ablative heat shields and reusable booster rockets is capable of making a minimum of 100 round trip missions to space.

The shuttle is technically feasible, and aid to space exploration and economically attractive, for the future but is there a need to explore space? While man is exploring and gaining knowledge about space, he will be learning more about this planet and how to overcome its problems. From studying planets further ahead of Earth in the evolutionary process and those behind it, man will learn Earth's past and future. Through remote sensing of the Earth, asteroids and neighboring planets, here-to-fore unknown energy resources may be found and utilized in the

future. By observing Earth from space, natural disasters may be forecasted and possibly prevented. Finally, if there are other intelligent beings in the universe, possibly more advanced and space exploration must be continued in order to communicate with other beings and if need be, to protect Earth from potential galactic enemies. Dr. Lee, Professor of ME and AE at UMR, asserts that, "It is our responsibility to move ahead in the development of space exploration, as well as all the sciences, if we are going to meet the challenges of the future."

All of this may sound Star Trekish and may not occur until 2001, but the space shuttle may well be the key to the future. "Space, the final frontier. To boldly go where no Man Has Gone Before..."



KMNR

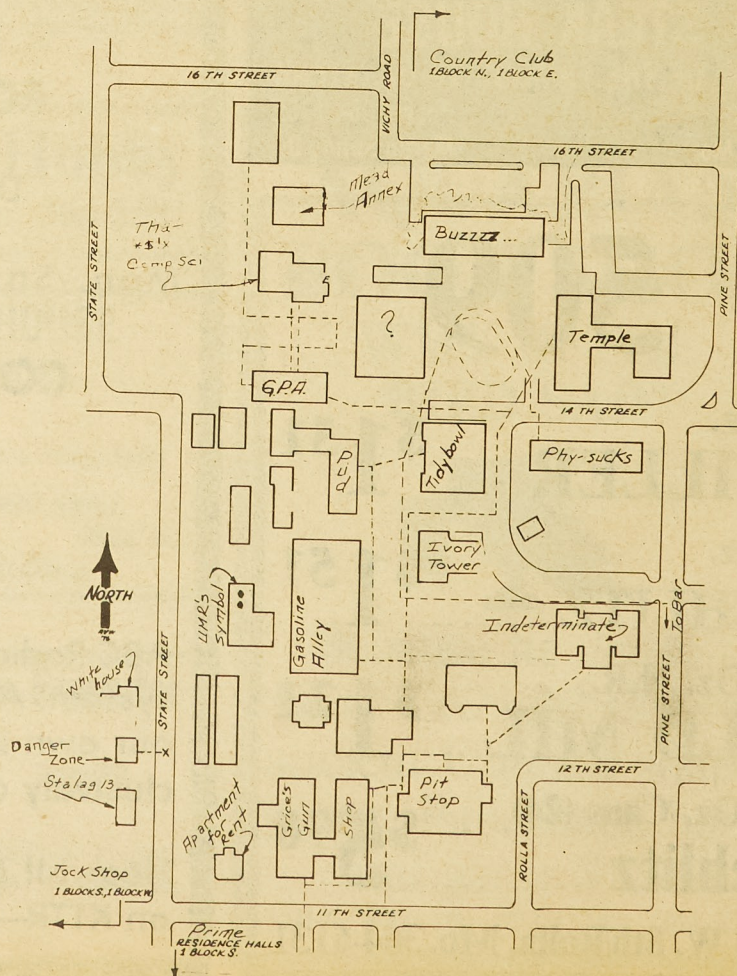
GROUNDWAVES

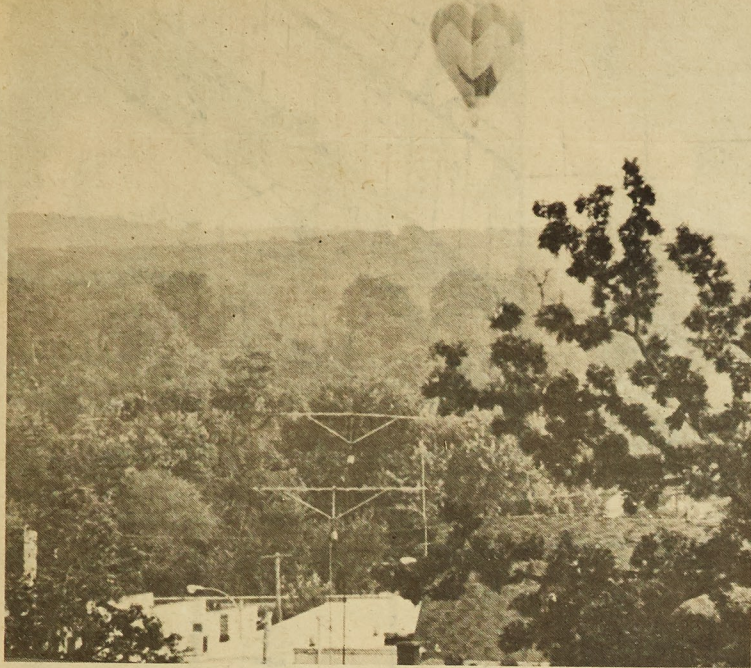


Cancelled this week due to technical difficulties.

Along The Road To Graduation

University of Missouri - Rolla





Flying High is a popular past time in Rolla as shown here. (Photo by Burford)

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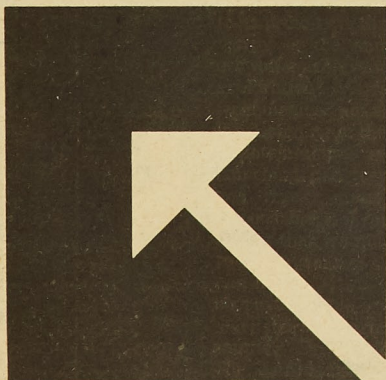
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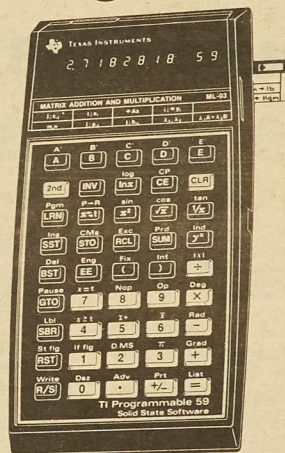
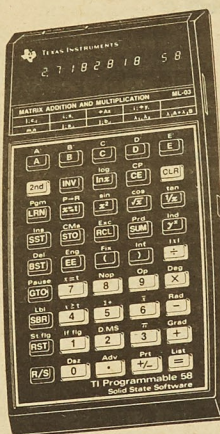
The Ancient Chinese Shapes
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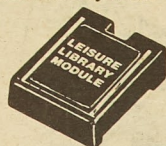
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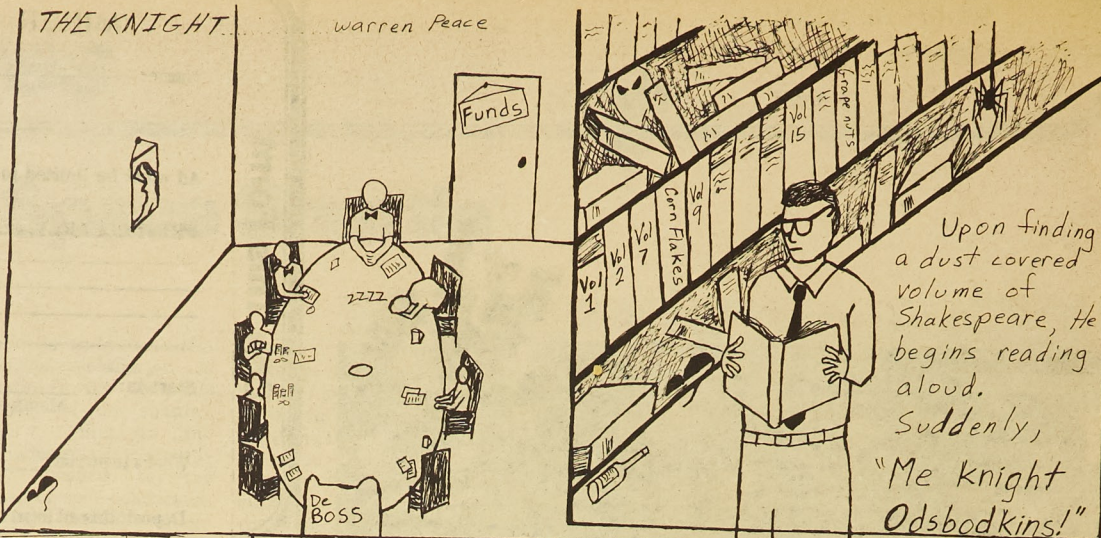
Appropriation of Funds For 1977-1978 year

physics ----- \$70,000
Geology ----- \$65,000
Chemistry ----- \$80,000
Humanities ----- \$1.98

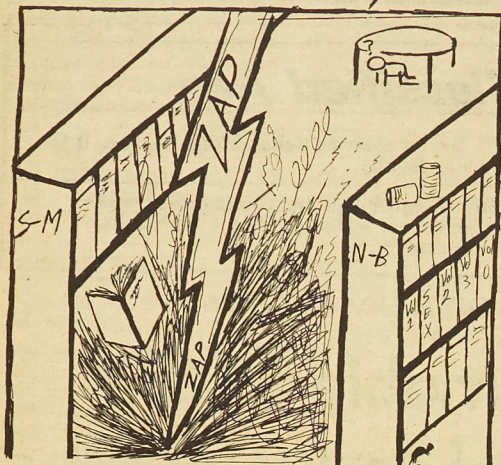
After hearing he has \$1.98
to run Humanities, the
head of the department
goes to drown his
sorrows.... in the library.

THE KNIGHT

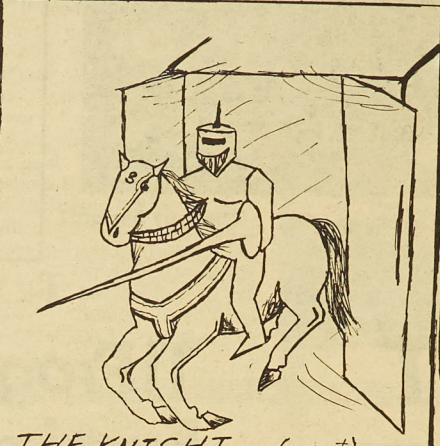
Warren Peace



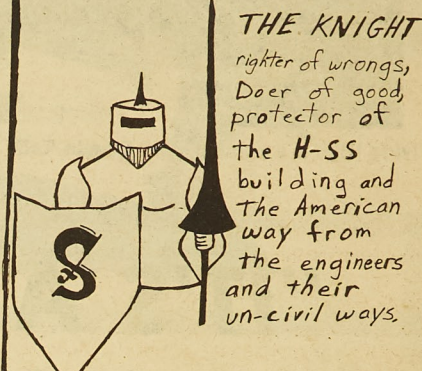
Upon finding
a dust covered
volume of
Shakespeare, He
begins reading
aloud.
Suddenly,
"Me knight
Odsbodkins!"



AND BECOMES...



THE KNIGHT (errant)



THE KNIGHT
righter of wrongs,
Doer of good,
protector of
the H-SS
building and
the American
way from
the engineers
and their
un-civil ways.

Could This Be You?

By LINDA PONZER

"I want to be more involved."

"I want to know what's going on."

"I want to meet and work with big name bands."

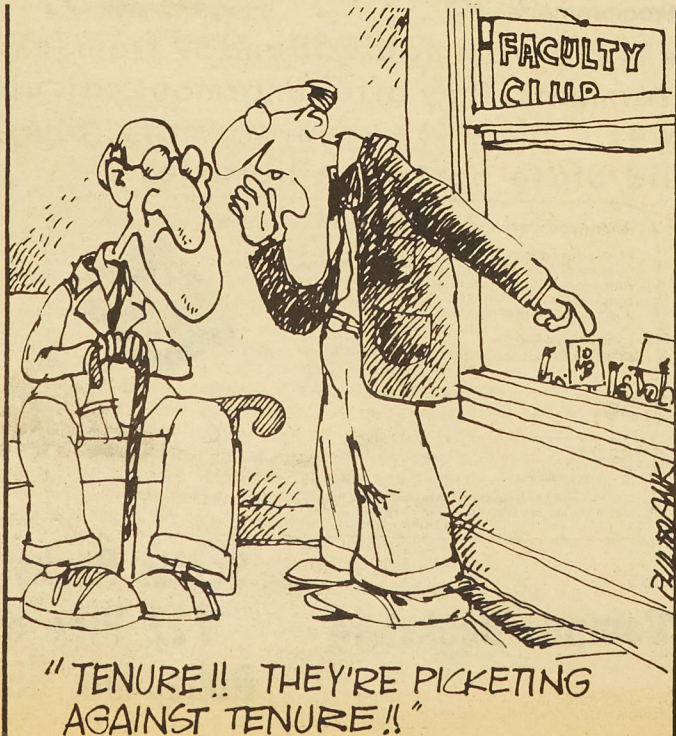
If any of the preceding statements seem to fit you, perhaps you should think about joining the ranks of SUB. This is an organization of students for students, its aim being to present the student body with a means of filling their extracurricular hours.

The organization of SUB consists of four officers, the directors and the chairpeople from each committee. The

Organization also consists of the members of each committee. These members are any students on campus who would care to work in any one of the eight committees.

Those committees are: Fine Arts (Concerts, plays & lectures) General Lectures (Contemporary concerts & mini-concerts), Hospitality (Serve as Hosts and Hostesses & Fashion Show), Public Relations (Publicize all events of SUB), Indoor Recreation (Tournaments & movies), Outdoor Recreation (Canoe trips, hikes & ski trips), Social (Coffee houses and dances), and Special Events (Homecoming & Casino Night).

If you want to join SUB, all you have to do is fill out an application from room 217 in the Student Union West or at the Candy Counter in the Student Union East. After your application is received the Sec-Tres. reviews it and then turns it over to the appropriate Committee Head who will in turn contact you and talk to you about what all is involved in that committee and then at the mutual consent of each of you, you will be a bonafide committee member. After serving a semester on a committee he can then run for a committee chairperson and then on up to an officer. So if you think you can do it, then go ahead and try.



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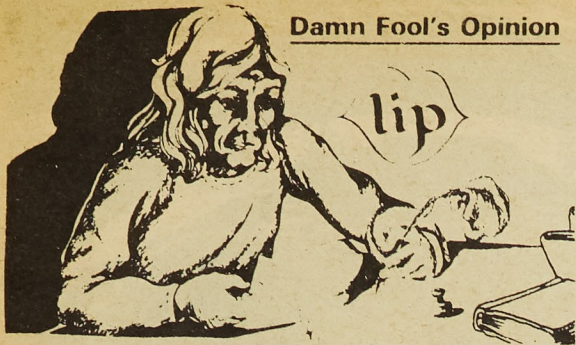
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Damn Fool's Opinion

By PAUL ANDREW

The day is Thursday, almost at the end of the second week of this fall, 1977 semester. We, the students, are settling down to the point where it is no longer critical to arrive at class before roll is taken. You're in!

Perhaps there remains within the UMR student body a rather large group who still might be concerned with getting to class ten minutes early among other things. I believe they're called freshmen. It's for the freshmen that I am writing this week's column.

Freshmen, from the time that the great amount of effort required to get through school is stressed upon them, assimilate that idea into their way of life at UMR. Academics is very much the reason for going to college, but not always the sole reason. There is much to be learned from outside the classroom.

The opportunities afforded a UMR student to learn and mature upon inspection are nearly boundless. Clubs, organizations, sports, etc. contribute to the maturing process by demanding a wider scope of vision to fulfill responsibilities and duties, attained through interworkings with other people.

UMR can advance upon its reputation of a good place of learning. By getting to working with other people, you can start now by making the UMR campus further well known.

This is the essence of a university: To prepare a member of society to be able to function with other people. Goals need not be limited to graduating with a 4.0 GPA, but maybe attaining a 3.5 and an understanding on how to organize one's thoughts for a meeting with a group of clients, laborers, or an employer.

So, dear freshmen, take the advantage in the number of years remaining here at UMR to mature, grow and in the end benefit yourself. And, yes, next time it's 8:10 and you are on your way to an 8:30, relax, you may get more out of it by not being in such a rush.

Whoosh!

By ED LATIMER

Picture this: You're on the first floor of the library and need to go to the third floor. Being a typical UMR student, you are lazy and so decide to use the elevator. You enter the elevator and expect a usual ride in an elevator. Suddenly somewhere between the second and third floors red lights start flashing and a "DANGER" sign appears. A fire alarm starts buzzing and you are thrown into the air momentarily as the elevator starts a rapid descent. The elevator stops on the first floor and the doors open up. A group of students stand laughing at you and all your books spread around the elevator floor, when it suddenly dawns on you: One of them pulled the fire alarm switch for the elevator.

Sounds like a far-fetched nightmare, huh? Well, it could become a reality soon. The Missouri Board of Curators in their unerring ways have awarded a contract to prepare specifications for bringing 97 elevators on the four Missouri campuses into safety compliance. The modifications, expected to cost the taxpayers \$263,580, will cause elevators to return to main landings — as described above — when smoke or fire is detected or a fire alarm is sounded. A tentative installation date has not yet been set.

This article wasn't intended to encourage student pranks or discourage smoking in the elevators, but if this happens to you, cheer up: At least you know you're getting your money's worth.



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Pledges of Campus Fraternities and some dormitory residents enjoy their annual water fight this past week. (Photo by Burford)

Test Your "Everyday Math" Ability.

Source: "Everybody's Money" Magazine.

It doesn't seem to matter if you learned arithmetic to the tune of the hickory stick or if you learned to cipher by the math method. If you're like most Americans, you may have a problem calculating your daily purchases, checking your bills, knowing what length draperies to buy, or how long to cook a turkey. This disconcerting information was revealed recently by the National Assessment of Educational Progress which tested both children and adults in math ability.

How do the engineering students at UMR stack up? Try this quiz which is partially adapted from the NAEP tests.

1. A turkey is to be cooked 20 minutes for each pound. If a turkey weighing 12.5 lbs. is to be done by 5 p.m. what time should it be put in the oven.
2. If a city's property tax is \$29.87 per \$1,000 of assessed value, the tax on property

assessed at \$14,900 would be closest to a) \$400 b) \$420 c) \$450 d) \$470

3. A punch recipe calls for equal amounts of lemonade, limeade, orange juice and ginger ale. How many pints of ginger ale would be needed to make two gallons of punch?

4. A gallon of asphalt paint will cover about 250 sq. ft. of surface area. This paint is sold in gallon cans only. How many cans are needed to paint a driveway 48 ft. by 10 ft.?

5. A state changes its sales tax from 3 per cent to 4 per cent. How much additional sales tax would you now pay on a \$2,760 car?

6. Your electric utility bill shows you have used 480 kilowatt hours. Your monthly meter charge is \$1.90. In addition, you pay 3.317 cents per kw-hr for the first 100 hours and 3.177 cents per kw-hr for the remaining. Also you pay .009¢ per kw-hr in electric fuel adjustment. To the nearest penny,

what should your bill be? a) \$17.72 b) \$19.34 c) \$21.59 d) \$18.34

7. Regular hamburger costs \$.90 a lb. but because of the fat content it will shrink 2 oz. when you cook it. Extra lean hamburger which will have no significant shrinkable costs \$1 a lb. You will get better value for your money if you buy a) regular hamburger b) extra lean hamburger c) no difference.

8. You receive your bank statement showing a bank balance of \$523.15. The bank statement shows a service charge of \$1.20. Your checkbook register shows the following checks were written but not yet cleared through the bank: \$42, \$10.44, \$14.60, \$56.32. What would your adjusted balance be? a) \$400.99 b) \$399.79 c) \$389.99 d) \$523.15.

ANSWERS: 1) 12:50 2) 2) 4 p.m. 3) 4 p.m. 4) 2 gal. 5) \$27.60 6) a) 7) b) 8) b.

Our Quarter Pounder with cheese. The hamburger so thick, we had to use two pieces of cheese.



"Cheese on top, Cheese on the bottom—STEREO CHEESE!"

Our McDonald's Quarter Pounder is so thick and beefy, one piece of cheese doesn't even make a dent in the big beef flavor. It just gets lost.

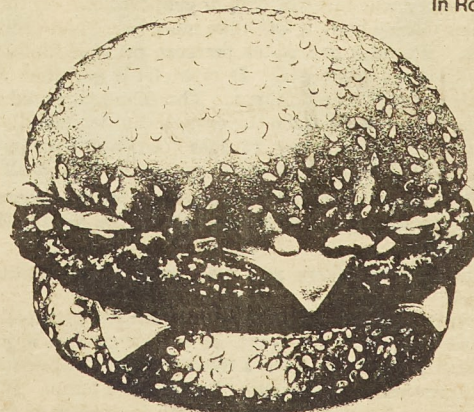
After pondering the question, we came up with a brilliant solution—add another piece of cheese.

So, if you're serious about your cheeseburger, and you're seriously hungry, order a Quarter Pounder with cheese. Twice as much cheese. Just for you.

We do it all for you.



In Rolla



*Weigh before cooking. 1/4 lb.

© 1975 McDonald's Corporation

"I Was There..."

Fiction by David T. Simms

The scar of her destruction can be seen by many, but understood by many less. The Atomic Dome, as it has been dubbed, lies in mute testimony to the 200,000 who died here. I was lucky. I survived the nuclear holocaust which destroyed my city, Hiroshima.

There are over 90,000 of us still in the city today. We who lived through death incarnate. But even those who supposedly survived are suffering from accelerated aging, cancer, leukemia, mutations. All the legacies remain. Though the Bomb was unleashed upon us over thirty years ago, its effects will never be washed from our streets.

It was a day like any other. Early in the morning, 8:15 or so, I was in my house leisurely eating my breakfast. In a span of less than a second, a hundred thousand people died in the heat flash. Then the blast levelled the city. It is horrible to even remember it.

I ran out to the heat, the suffering. Here was a wall which bore the shadow of a man who was instantly roasted where stood. The unknown man was just a cinder now, but his shadow remained charred on the wall, living for years after the man who had left it there.

On another lane I see the mockeries of human beings screaming for salvation as the melted flesh slides off their scorched bodies. Better to have

died than to live in such pain.

Men, women, and children dead and dying around me. The Bomb did not discriminate. All were killed. No favorites.

Most of the doctors who hadn't been drafted died in the blast and there were few hospitals to handle the amount of burn victims that just kept pouring in.

I can remember that months later, many stillborn infants were born of healthy mothers, victim of a poison of the world they would never see.

We rebuilt our city over the years. It took a long time but we covered the ashes and buried our dead. So many dead. So many still dying today.

A headache, a nosebleed, any disorder in the natural body functions strikes terror into the heart of a survivor like me as it could be the herald of leukemia or worse. It seems as though the bomb will never let go.

People are forgetting that cold August day now. But only those who were not in the city when it happened. To we survivors, the memory of that day will live in our minds forever, burned just as deeply there as are the shadows of men in the granite walls of my city.

Source: "Postscript From Hiroshima" By Rafael Steinberg



THE MISSOURI MINER

Missouri School of Mines and Metallurgy, Rolla, Missouri.

Friday, November 5, 1920.

What Is Air?

BEFORE 1894 every chemist thought he knew what air is. "A mechanical mixture of moisture, nitrogen and oxygen, with traces of hydrogen, and carbon dioxide," he would explain. There was so much oxygen and nitrogen in a given sample that he simply determined the amount of oxygen present and assumed the rest to be nitrogen.

One great English chemist, Lord Rayleigh, found that the nitrogen obtained from the air was never so pure as that obtained from some compound like ammonia. What was the "impurity"? In co-operation with another prominent chemist, Sir William Ramsay, it was discovered in an entirely new gas—"argon." Later came the discovery of other rare gases in the atmosphere. The air we breathe contains about a dozen gases and gaseous compounds.

This study of the air is an example of research in pure science. Rayleigh and Ramsay had no practical end in view—merely the discovery of new facts.

A few years ago the Research Laboratories of the General Electric Company began to study the destruction of filaments in exhausted lamps in order to ascertain how this happened. It was a purely scientific undertaking. It was found that the filament evaporated—boiled away, like so much water.

Pressure will check boiling or evaporation. If the pressure within a boiler is very high, it will take more heat than ordinarily to boil the water. Would a gas under pressure prevent filaments from boiling away? If so, what gas? It must be a gas that will not combine chemically with the filament. The filament would burn in oxygen; hydrogen would conduct the heat away too rapidly. Nitrogen is a useful gas in this case. It does form a few compounds, however. Better still is argon. It forms no compounds at all.

Thus the modern, efficient, gas-filled lamp appeared, and so argon, which seemed the most useless gas in the world, found a practical application.

Discover new facts, and their practical application will take care of itself.

Sometimes years must elapse before the practical application of a discovery becomes apparent, as in the case of argon; sometimes a practical application follows from the mere answering of a "theoretical" question, as in the case of a gas-filled lamp. But no substantial progress can be made unless research is conducted for the purpose of discovering new facts.

How Large is an Atom?

ATOMS are so infinitesimal that to be seen under the most powerful microscope one hundred million must be grouped. The atom used to be the smallest indivisible unit of matter. When the X-Rays and radium were discovered physicists found that they were dealing with smaller things than atoms—with particles they call "electrons."

Atoms are built up of electrons, just as the solar system is built up of sun and planets. Magnify the hydrogen atom, says Sir Oliver Lodge, to the size of a cathedral, and an electron, in comparison, will be no bigger than a bird-shot.

Not much substantial progress can be made in chemical and electrical industries unless the action of electrons is studied. For that reason the chemists and physicists in the Research Laboratories of the General Electric Company are as much concerned with the very constitution of matter as they are with the development of new inventions. They use the X-Ray tube as if it were a machine-gun; for by its means electrons are shot at targets in new ways so as to reveal more about the structure of matter.

As the result of such experiments, the X-Ray tube has been greatly improved and the vacuum tube, now so indispensable in radio communication, has been developed into a kind of trigger device for guiding electrons by radio waves.

Years may thus be spent in what seems to be merely a purely "theoretical" investigation. Yet nothing is so practical as a good theory. The whole structure of modern mechanical engineering is reared on Newton's laws of gravitation and motion—theories stated in the form of immutable propositions.

In the past the theories that resulted from purely scientific research usually came from the university laboratories, whereupon the industries applied them. The Research Laboratories of the General Electric Company conceive it as part of their task to explore the unknown in the same spirit, even though there may be no immediate commercial goal in view. Sooner or later the world profits by such research in pure science. Wireless communication, for example, was accomplished largely as the result of Herz's brilliant series of purely scientific experiments demonstrating the existence of wireless waves.

Season Opens Saturday For Miners

Cont. from p. 1

Overall, the Miners lack senior experience, having only seven seniors on the squad. However, there are several seniors on the team that are juniors eligibility-wise due to changes in NCAA rules.

The Miners have eight principle coaches. First, Head Coach Charlie Finley, Assistant Head Coach Bud Mercier is responsible for the defensive secondary. He graduated from UMC and got his masters in physical education from Arkansas State University. Chuck Broyles, defensive coordinator in charge of the defensive line and backs has a B.S. and masters in physical

education from Pittsburgh State in Pittsburgh, Kansas. Joe Keaton, the offensive line coach, has a B.S. and masters in physical education from Central Missouri State. Major Fred Redd, volunteering his time from Fort Leonard Wood, is the coach for the offensive backs. He has coached high school football, and coached for three years at West Point. He has his B.S. in physical education from SMSU and his masters from CMSU. There are three graduate students on the staff also. Jeff Buck, last year's center, is coaching the centers. Herb Herman, last year's all-conference defensive safety, is responsible for the wide receivers.

The other teams in the MIAA are: Southeast Missouri State at Cape, Northeast Missouri State at Kirksville, Central Missouri State at Warrensburg, Northwest Missouri State at Maryville, Southwest Missouri State at Springfield, and Lincoln University in Jefferson City.

Last year the Miners were 2-4 in conference action. Missouri Valley is an excellent team that has a long tradition of winning football. They won their conference's title the last five years, sharing only one of those. Their worst season in the last five was an 8-2 mark. They were NCAA Division II runner-ups in '74.

1977 FOOTBALL SCHEDULE

Date	Place	Time
Sept. 3	Missouri Valley	1:30
Sept. 10	Missouri Western	1:30
Sept. 17	Missouri Southern (PD)	1:30
Sept. 24	at K. State, Pittsburg	8:00
Oct. 8	at Lincoln U.	7:30
Oct. 15	Central Mo. (HC)	1:30
Oct. 22	at Southwest Mo.	1:30
Oct. 29	Northwest Mo.	1:30
Nov. 5	Washington U.	1:30
Nov. 12	at Southeast Mo.	1:30
Nov. 19	Northeast Mo.	1:30

IM Football Picks

By BRIAN EDWARDS

The following predictions are those of the author and in no way reflect the opinion of the Miner. The two teams competing in this year's Flag Football Final will be the same as the past two years. It will be Sig Ep facing TKE in the final.

In League I it will be Sig Ep uncontested finishing first. Sig Ep has probably the easiest schedule of all the contenders and considering what a powerful team they had last year any schedule would be

easy for them.

The toughest League of all is League II. TKE will have quite a challenge in getting to the finals as they have to face such formidable foes as Sig Nu, Lambda Chi, and ABS. But in the end it will be TKE and Sig Nu representing League II in the playoffs.

Phi Kap and PiKA will take first and second in League III and it will be Tech Eng and Beta Sig going to the playoffs from League IV.

FOOTBALL LEAGUES

I	II	III	IV
Sig Ep	TKE	Phi Kap	Tech-Eng
Sig Tau	Sig Nu	Kappa Alpha	Beta Sig
Focus	Kappa Sig	Pi KA	TJHA
Acacia	Lambda Chi	GDI	A Phi A
Campus	Delta Tau	Wesley	Sig Pi
Mates	ABS	Pi Kappa Phi	Triangle
MHA	AE Pi	Delta Sig	Theta Xi

Fall Intramurals

Event	Starting Date	Entries Due
Flag football	Sept. 6	Sept. 22
Golf	Sept. 23-25	Sept. 21
Cross country	Oct. 21	Oct. 18
Tennis	Sept. 20	Sept. 14
Cycling	Oct. 9	Oct. 5
Racketball	Oct. 4	Sept. 28
Swimming	Oct. 12-13	Oct. 5
Volleyball	Oct. 25	Sept. 22
Soccer	Oct. 25	Sept. 22
Table tennis	Oct. 25	Oct. 18
Billiards	Oct. 25	Oct. 18

Sports Car Club

The University of Missouri-Rolla Sports Car Club will hold its first Autocross of the fall season Sunday, Aug. 28 at 12:30 p.m. on the Multi-Purpose Building parking lot.

This event is the annual Rookie Challenge Autocross where those who want to learn about or try Autocrossing may do so for free.

An Autocross is held on a closed course defined by guiding pylons. Only one car at a

time is allowed on the course. Cars compete for minimum score through the course with penalty points assessed for elapsed time and displaced pylons. There will be classes appropriate for all type of cars as listed in the SCCA Solo II Rules.

Everyone is invited to participate. Dash plaques will be awarded to all entrants at the UMR Sports Car Club meeting Sept. 7.

UMR 1977 CROSS COUNTRY SCHEDULE

September 10	St. Louis Univ. Lincoln Univ. School of the Ozarks	Rolla	11:00
Sept. 16	CMSU	Rolla	3:30
Sept. 24	SIUE	Edwardsville	11:00
Oct.	All MO	Columbia	10:30
Oct. 8	Lincoln Univ.	Jefferson City	10:30
Oct. 15	SMSU Distance Classic	Springfield	10:30
Oct. 22	UMSL	St. Louis	11:00
Oct. 29	SWMU	Rolla	11:00
Nov. 5	MIAA	Warrensburg	10:30



Water fights can be fun even though they are not Intramural Sporting Events.

(Photo by H. Burford)

Gym Rules Fall Semester

MONDAY THRU FRIDAY

8:00 a.m.-11:30 a.m. Free play for all students (equipment room opens at 9:00 a.m.)

11:30 a.m.-1:00 p.m. All facilities reserved for faculty fitness program.

1:00 p.m.-3:30 p.m. Free play for all students.

3:30 p.m.-7:30 p.m. Gym floor reserved for varsity basketball and volleyball practice. All other facilities will open to students.

7:30 p.m.-9:45 p.m. Intramural sports and free play for all students (Exception — home varsity basketball and volleyball games.)

FRIDAY NIGHT

6:30 p.m.-9:30 p.m. Faculty family night. All facilities closed to students. However, if the floor is not crowded, students may use one court.

SATURDAY

1:00 p.m.-8:00 p.m. Free play for all students except during varsity basketball and volleyball games. (Gym closes at 3:30 and other facilities at 5:00 prior to a varsity basketball game.)

SUNDAY

1:00 p.m.-5:00 p.m. Free play for all students.

SMOKING Permitted only in the main lobby on first floor and in the office area on ground floor. (No smoking in the locker room area or gym floor.)

POOL

MONDAY THRU FRIDAY

11:30 a.m.-3:30 p.m. Student and faculty swimming

3:30 p.m.-7:30 p.m. Varsity practice (in season)

6:30 p.m.-9:00 p.m. Student and faculty swimming (Except

Friday, faculty family swimming only.)

SATURDAY

1:00 p.m.-5:00 p.m. Student and faculty swimming (Other facilities available to only students.)

6:00 p.m.-8:00 p.m. Student and faculty swimming (Other facilities available to only students.)

SUNDAY

1:00 p.m.-5:00 p.m. Student and Faculty swimming (other facilities available to only students.)

New Assistant Basketball Coach

By BILL FRANK

Jim Dinsdale, formerly basketball coach at Indian Hills Community College, Centerville, Iowa, was named assistant basketball coach and instructor of physical education at UMR.

UMR's head basketball coach and athletic director Billy Key said, "We interviewed some outstanding candidates for the position and felt that Jim is the man we want. He has had a successful career both at the high school and junior college level and we're looking forward to working with him."

Coach Dinsdale received his B.S. in education from UMC in 1963. He played basketball three years and earned his letter with the Tigers. Dinsdale received an M.S. in education from Central Missouri State in 1975.

He coached and was a recreation instructor at Indian Hills for the past three years. From 1969 to 1973, he was head basketball coach at Smith-Cotton High School in Sedalia, where he had four of five winning seasons and placed third in the class L state tournament in 1973.

His first coaching position was in Jefferson County, Colorado, where he coached junior high teams for two years and assisted one year on the high school team. He was

named head coach at Lakewood High School in Jefferson County in 1966 and in 1967, won the Jefferson County League. It was the first time in 10 years that Lakewood had won a championship. The overall career record is 120 and 70.

Jerry Kinsley, who had held the position since 1970, resigned to take a similar position at Drury College in Springfield.

The Bob Harmon Forecast

Saturday, Sept. 10—Major Colleges

Alabama	27	Mississippi	8
Alcorn State	23	Grambling	21
Arkansas State	24	Drake	7
Arkansas	33	New Mexico State	7
Army	21	Massachusetts	10
Auburn	27	Arizona	24
Bail State	20	Toledo	12
Bethune-Cookman	23	Texas Southern	14
Bowling Green	30	Grand Valley	13
Brigham Young	27	Kansas State	13
Central Michigan	26	Eastern Michigan	13
Chattanooga	21	Western Kentucky	12
Cincinnati	34	NW Louisiana	8
Colorado State	23	Pacific	6
Colorado	27	Stanford	14
Davidson	22	Fordham	19
Dayton	20	Butler	6
Duke	21	East Carolina	20
Florida State	21	South'n Mississippi	16
Georgia	38	Oregon	6
Iowa State	41	Wichita	6
Iowa	22	Northwestern	14
Kent State	27	Illinois State	7
Kentucky	27	North Carolina	16
Louisville	35	Northern Illinois	6
Maryland	27	Clemson	12
McNeese	23	Indiana State	17
Memphis State	23	Tulane	17
Michigan	35	Illinois	10
Minnesota	25	Western Michigan	14
Mississippi State	23	Washington	22
Navy	21	The Citadel	7
Nebraska	23	Washington State	7
New Hampshire	20	Holy Cross	7
New Mexico	26	Hawaii	12
North Carolina State	24	Virginia	10
North Texas	19	U.T.E.P.	7
NE Louisiana	17	Lamar	12
Notre Dame	24	Pittsburgh	23
Ohio State	29	Miami, FL	17
Oklahoma State	31	Marshall	12
Oklahoma	34	Tulsa	7
Purdue	21	Vanderbilt	10
Rice	22	Michigan State	20
Rutgers	28	Idaho	13
**San Diego State	35	Colgate	6
San Jose State	28	Fullerton	13
South Carolina	25	Utah State	14
Southern California	31	Georgia Tech	20
S.M.U.	30	Missouri	16
Southern U	23	T.C.U.	13
SW Louisiana	23	Fresno State	6
Syracuse	22	Oregon State	20
Temple	24	Southern Illinois	15
Tennessee State	28	Jackson State	16
Tennessee Tech	17	Western Carolina	16
Tennessee	22	California	21
Texas A & M	24	Texas	13
Texas Tech	24	Baylor	17
Texas	20	Boston College	17
***U.C.L.A.	28	Houston	15
Villanova	30	Youngstown	8
Wake Forest	22	Furman	15
West Virginia	24	Richmond	17
William & Mary	24	V.M.I.	10
Wisconsin	20	Indiana	13
Wyoming	21	Air Force	14

Other Games—South and Southwest

Akron	31	Morehead	6
Alabama State	21	Bishop	12
Bowie State	21	St. Paul's	7
Cameron	23	S. F. Austin	14
Central Arkansas	20	SE Missouri	7
Concord	18	Bluefield	7
Delaware	27	Eastern Kentucky	14
Delta State	20	Murray	17
East Texas	20	Prairie View	14
Elon	25	Wofford	10
Gardner-Webb	25	Glennville	0
Georgetown, Ky	17	Kentucky State	8
Guilford	17	Hampden-Sydney	13
Hampton	20	Winston-Salem	16
Harding	26	Lane	8
Howard	19	Florida A & M	17
J C Smith	21	Lenoir-Rhyne	20
Jacksonville	37	Alabama A & M	0
Madison	17	Emory & Henry	7
Martin	19	Austin Peay	7
Millaps	17	Southwestern, TN	7
Mississippi Valley	35	Lincoln	0
Morgan	29	Virginia State	12
Nicholls	22	Mississippi College	17
Norfolk	21	Livingstone	9
North Alabama	21	East Tennessee	15
N. Carolina Central	28	Elizabeth City	6
Ouachita	22	McMurry	6
Pine Bluff	24	Monticello	12
Presbyterian	25	Mars Hill	20
Randolph-Macon	17	Salisbury	13
Salem	20	West Liberty	10
Sam Houston	23	SW Oklahoma	20

Shepherd	26	West Va Wesleyan	13
South Carolina State	36	Delaware State	0
Taylor	37	Sul Ross	14
Texas A & I	37	Livingston	7
Texas Lutheran	22	Southwest Texas	13
Towson	28	Maryland East Shore	12
Washington & Lee	20	Lock Haven	19
Waynesburg	27	Frostburg	0
West Va State	27	West Va Tech	6

Other Games—East

Albright	20	Franklin & Marshall	17
Alfred	30	Brockport	7
American In'national	24	So'ern Connecticut	19
Carnegie-Mellon	26	California State	7
Cortland	23	Springfield	20
Edinboro	20	Fairmont	10
Gettysburg	24	Walsh	21
Grove City	22	Bethany, WV	14
Indiana	27	Junata	20
Kings Point	31	Coast Guard	6
Lafayette	26	Maine	20
Lehigh	27	Connecticut	20
Lycoming	23	Dickinson	6
Montclair	17	Kean	6
Northeastern	23	Rhode Island	22
Shippensburg	25	Bloomsburg	7
Wash'ton & Jefferson	20	Geneva	9
West Chester	30	Glassboro	12
Westminster	26	Millersville	14

Other Games—Midwest

Adrian	30	Bluffton	6
Albion	25	Wabash	6
Angelo State	23	Central Oklahoma	10
Ashland	22	Franklin	16
Augustana, IL	17	Luther	7
Augustana, SD	26	Gustavus	14
Baker	18	Kansas Wesleyan	15
Bemidji	23	Valley City	15
Bethel, Mn	18	Macalester	7
Buena Vista	41	Westmar	0
Central College, Ia	24	Northwestern, Ia	13
Colorado College	29	Nebraska Wesleyan	10
Concordia, Mn	22	Nebraska Wesleyan	21
Dakota Wesleyan	20	Sioux Falls	7
Dickinson, ND	20	Black Hills	14
Dubuque	16	North Park	13
Duluth	48	Superior	0
E. Central Oklahoma	24	Howard Payne	17
Eastern Illinois	21	NE Missouri	14
Eau Claire	21	St. Norbert	10
Hamline	27	Concordia (St. P.)	6
Hastings	20	Doane	17
Hillsdale	24	Saginaw Valley	12
Hiram	16	Case Reserve	10
Hope	21	DePaul	7
Indiana Central	25	Anderson	10
Iowa Wesleyan	15	Upper Iowa	14
Jamestown	26	Huron	6
Michigan Tech	21	Northwood	20
Midland	30	Peru	8
Missouri Southern	27	Central Missouri	15
Missouri Valley	20	Washburn	13
Missouri Western	21	Rolla	13
Morris Brown	17	Central State, Oh	14
North Dakota State	24	Omaha	6
NE Oklahoma	23	Southern State	22
Northern Michigan	27	Northern Iowa	7
Northern State	20	Wayne St. Nb	6
NW Oklahoma	17	Fort Hays	8
Ohio Wesleyan	21	Heidelberg	9
Ottawa	18	Bethany, Ks	7
Oshkosh	23	Valparaiso	17
Pittsburg	17	NW Missouri	16
Platteville	23	Ferris	16
River Falls	33	Augsburg	8
Rose Hulman	19	Manchester	6
St. Cloud	28	St. Thomas	16
St. Johns	24	Morris	23
St. Joseph	35	Olivet	6
St. Olaf	22	Warburg	10
South Dakota	27	Morningside	10
SE Oklahoma	29	Austin	6
SW Oklahoma	31	Emporia	6
Tarkio	26	Concordia, Nb	13
Washington, Mo	27	Culver-Stockton	0
Wayne State, Mi	21	Stevens Point	12
Western Illinois	27	South Dakota State	20

Other Games—Far West

Abilene Christian	27	Northern Colorado	15
Boise State	27	Weber	14
Cal Lutheran	34	San Diego U	6
Cal Poly (S.L.O.)	28	Portland State	27
Eastern New Mexico	33	New Mex. Highlands	6
Los Angeles	27	U.S.I.U	12
Mesa	23	Eastern Montana	13
Montana State	38	North Dakota	6
Nevada (Las Vegas)	26	Montana	21
Nevada (Reno)	33	Westminster	8
Northern Arizona	23	Idaho State	10
Northridge	22	San Francisco State	7
Puget Sound	24	Cal Poly (Pomona)	20

(**Friday, Sept. 9)

(***Monday, Sept. 12)

FORUM II

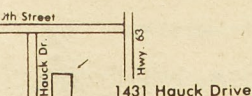


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Two New Basketball Players Signed

By **BILL FRANK**

Last May, the Miner Basketball office announced the signing of two exciting high school All-Stars.

The first, from St. Charles High School in St. Charles, Mo., is Rick Fuerman. He's a 6'6", 190-pounder and will play forward for UMR although he was a center in high school.

UMR's head coach Billy Key talked about his new acquisition: "He is a very sound basketball player and we are pleased to have him join our program. I feel sure Rick will fit very well into our style of play."

The second find is Jeff Kipp from O'Hara High school in Kansas City, Mo. He's also a 6'6", 190-pounder. He lettered all four years in both basketball and track, and virtually rewrote all of his high school's basketball records. He established a new four-year career scoring record, a new one season scoring record (507 pts.) and the record for most points in one game (35).

He also established new marks in career rebounds, most

rebounds for one season, and most rebounds in one game (25). He also placed fourth in the state in the high jump.

This season Jeff led his team to a 21-5 record, averaging 19 points and 10 rebounds a game. He was named to the Second team All-Metro Kansas City team, Second team All-State and First team All-District in the 3A Division.

Jeff was also valedictorian of his class and will major in Mechanical Engineering at UMB.

Rick Fuerman lettered three times in basketball plus twice in baseball. He started all three years at St. Charles High and his team compiled a 77-12 record.

This last season Rick averaged 14 points on a well-balanced scoring team and 10 rebounds a game. He was selected to the first Suburban West County All-Star Team, was a second team All-District choice and was honored by the St. Louis Post Dispatch as one of its scholar athletes.



Handball Action at the Multi-Purpose Building

(Photo by Burford)



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